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Avalanche Notes

U.S. Forest Service
Westwide Avalanche Network

November 1984

Season's Greeting to you all and best wishes for a safe and snowy Winter of '85. Avalanche Notes is once again being brought to you by the Colorado Avalanche Information Center, with funding for the Westwide Data Network -- and Avalanche Notes -- provided by the USDA Forest Service.

It was great that so many of the people in the avalanche business could get together for the International Snow Science Workshop in Aspen, CO on October 24-27. More than 350 people from the U.S., Canada, France, Switzerland, Italy, Japan, and New Zealand were there. It was a great conference and a great party.

Winter came early to the west this year. Mountain snows began in September, intensified in October, and squeezed Indian Summer out of the weather picture altogether. Snow depths of 20 inches and more were common in the Cascades of Washington and Oregon and in the Rockies from Montana to Colorado.

November snow totals were normal to above at most sites. In Colorado, Berthoud Pass recorded 120% of normal, while Loveland Pass was right at 100% of normal. In Utah, Snowbird received 24 inches on the 9th, and 41" from the 3-day storm. The Sierras of California saw frequent medium-sized storms, enough to bring Alpine Meadows about 300% of its normal November snows. Squaw Valley recorded 26 inches of new snow on the 28th. In the Cascades, Mt. Rainier, WA topped all other sites with 156 inches, 160% of normal. Right behind was Mt. Hood Meadows, OR with 153 inches. Stevens Pass, WA came in with 200% of normal snows.

Would you like to know what the rest of the winter will be like? Wouldn't we all. Avalanche Notes offers two opinions on the 90-day outlook for December-February. On an attached page are forecasts of the National Weather Service and the Scripps Institution of Oceanography. Basically, both are saying there is a good chance that the West will be colder and snowier than normal.

Avalanche accidents in November were all minor. There were four incidents which caught five people, buried one, and injured one. But back on October 17, a ski tourer was killed in an avalanche on Kelso Mountain near Loveland Pass, CO. This was a large avalanche which the victim triggered at an elevation of 13,000 feet. It fell 2200 feet vertical and buried the victim 10 feet deep.

Colorado also had a summer avalanche fatality on June 18, which raised the 1983-84 Colorado toll to 8 and the national toll to 14. In this incident, a lone tourer was skiing the fresh snow of a June storm when he triggered the slide which mostly buried him. A search team found the body several days later.

Rocky Mountain Forest and Range Experiment Station

One final note concerning avalanche accidents: The Snowy Torrents, Volume 3 has at last been published. This volume, authored by Knox Williams and Betsy Armstrong, covers accidents from 1972-79 and contains a summary table of the accidents detailed in all three volumes. It is great reading, and it is available for \$15 plus \$1.50 postage from the Teton Bookshop Publishing Company, Box 1903, Jackson, Wyoming 83001.

Area	Total Avalanches Reported		Damage Summary - This winter								
	This Month	This Winter	People				Vehicles		Avalanches Damaged		
			C	B	I	K	B	D	Bldgs	Lifts	Misc
Cent. & So. Rockies	103	155	1	1	0	1	0	0	0	0	0
Intermountain	183	183	1	0	0	0	0	0	0	0	0
West Coast	415	415	4	1	1	0	0	0	0	0	0
All Areas	701	753	6	2	1	1	0	0	0	0	0

U.S. FOREST SERVICE
ALPINE SNOW AND AVALANCHE RESEARCH PROJECT
RM STATION FORT COLLINS, COLO.

NOVEMBER 1984

SUMMARY OF WEATHER AND SNOW CONDITIONS

AREA	SNOWFALL					WATER EQUIVALENT					SNOW DEPTH			TEMPERATURE			WIND SPEED AND DIRECTION										
	TOTAL SNOW-FALL IN.	MAX IN 24 HR.	D T E	NUMBER OF DAYS GE	3 5 1 0	TOTAL WATER IN.	MAX IN 24 HR.	D T E	NUMBER OF DAYS GE	3 5 1 0	MAX IN.	A T E IN.	MIN IN.	AVG IN.	MEAN MAX DEGREES	MEAN MIN F	AVG	AVG FOR MO. MPH	6 HOUR PERIODS GE	15 20	FASTEST HOUR MPH	D T E					
CENTRAL AND SOUTHERN ROCKY MOUNTAINS																											
BERTHOOD PASS, COLO	54.0	.07	14	15		3.92	.36	15	11	6	3	0	37	15	15	25	30.9	8.8	19.8	13.4	48	24	38	250			
BERTHOOD-MINES PEAK	37.0	.08	11	29		3.81	.36	15	11	6	3	0	37	15	15	25	30.9	8.8	19.8	13.4	48	24	38	250			
COOPER MTS, COLO	37.0	.08	11	29		3.81	.36	15	11	6	3	0	37	15	15	25	30.9	8.8	19.8	13.4	48	24	38	250			
COITIC, COLO	37.0	.08	11	29		3.81	.36	15	11	6	3	0	37	15	15	25	30.9	8.8	19.8	13.4	48	24	38	250			
LOVELAND PASS U.S. 6	37.0	.08	11	29		3.81	.36	15	11	6	3	0	37	15	15	25	30.9	8.8	19.8	13.4	48	24	38	250			
MONARCH, COLO	23.0	.09	6	29		1.83	.80	9	7	3	1	0	29	15	12	20	28.8M	13.1	21.0M	11.8	11.8	24.6	38	310			
MORGANTRY, COLO	23.0	.09	6	29		1.83	.80	9	7	3	1	0	29	15	12	20	28.8M	13.1	21.0M	11.8	11.8	24.6	38	310			
SUNLIGHT, COLO	46.5	.09	7	26		1.54	.45	26	5	3	0	1	37	25	20	25	37.3	11.8	24.6	11.2	23.6	48	24	38	250		
WINTER PARK IE, COLO	37.0	.07	14	15		2.52	.38	15	10	4	1	0	25	30	14	17	36.1	11.2	23.6	11.2	23.6	48	24	38	250		
INTERMOUNTAIN																											
BRIDGER BOWL, MONT	36.2	.10	6	14		3.57	.50	7	12	8	2	0	42	30	23	29	34.0M	18.7M	26.4M	18.2M	26.4M	93M	75M	48	24	38	250
SNOWBIRD, JTAH	35.0	.08	24	9		8.79	2.52	3	13	8	3	1	70	30	31	47	37.4M	18.2M	28.3M	18.2M	26.4M	93M	75M	48	24	38	250
TELETON PASS, AYD 22	62.0	.08	13	3		4.71	1.13	3	12	9	3	1	42	30	23	29	34.0M	18.7M	26.4M	18.2M	26.4M	93M	75M	48	24	38	250
WEST COAST																											
ALPINE MEADOWS, CAL	35.5	.10	14	8		4.00	2.25	21	5	3	2	1	54	28	0	25	36.7M	24.3M	30.6M	22.1M	25.6M	1	0	24	130	20	
ALYESKA, ALASKA	37.0	.10	14	8		4.00	2.25	21	5	3	2	1	54	28	0	25	36.7M	24.3M	30.6M	22.1M	25.6M	1	0	24	130	20	
MT. HOOD MOUNTAINS, ORE.	153.0	.13	15	3		21.04	2.61	4	23	19	14	3	106	30	37	66	33.8M	22.1M	30.6M	22.1M	25.6M	1	0	24	130	20	
MT. RAINIER PARADISE	153.0	.13	15	3		21.04	2.61	4	23	19	14	3	106	30	37	66	33.8M	22.1M	30.6M	22.1M	25.6M	1	0	24	130	20	
MT. ROSE/SILVER PT, NV	35.5	.10	14	8		4.00	2.25	21	5	3	2	1	54	28	0	25	36.7M	24.3M	30.6M	22.1M	25.6M	1	0	24	130	20	
SQUAW VALLEY, CALIF	85.4	.15	26	28		19.40	3.08	4	20	20	16	7	68	30	20	40	44.3	22.3	33.3	27.0	27.9	1	0	24	130	20	
STEVENS PASS, SE WASH	125.0	.15	16	2		19.40	3.08	4	20	20	16	7	68	30	20	40	44.3	22.3	33.3	27.0	27.9	1	0	24	130	20	
-- DATA INCOMPLETE OR MISSING																											
M-ONE OR MORE DAYS OF RECORD MISSING-IF AVERAGE VALUE IS ENTERED PERIODS ARE MISSING																											
IF WIND SPEED COLUMN, LESS THAN 37.5-HOUR PERIODS ARE MISSING																											
E-IF GREATER THAN OR EQUAL TO																											

DATA INCOMPLETE OR MISSING
IF MORE DAYS OF RECORD MISSING-IF AVERAGE VALUE IS ENTERED. LESS THAN 10 DAYS RECORD IS MISSING
IF M IS ENTERED IN WIND SPEED COLUMN, LESS THAN 37.5-HOUR PERIODS ARE MISSING
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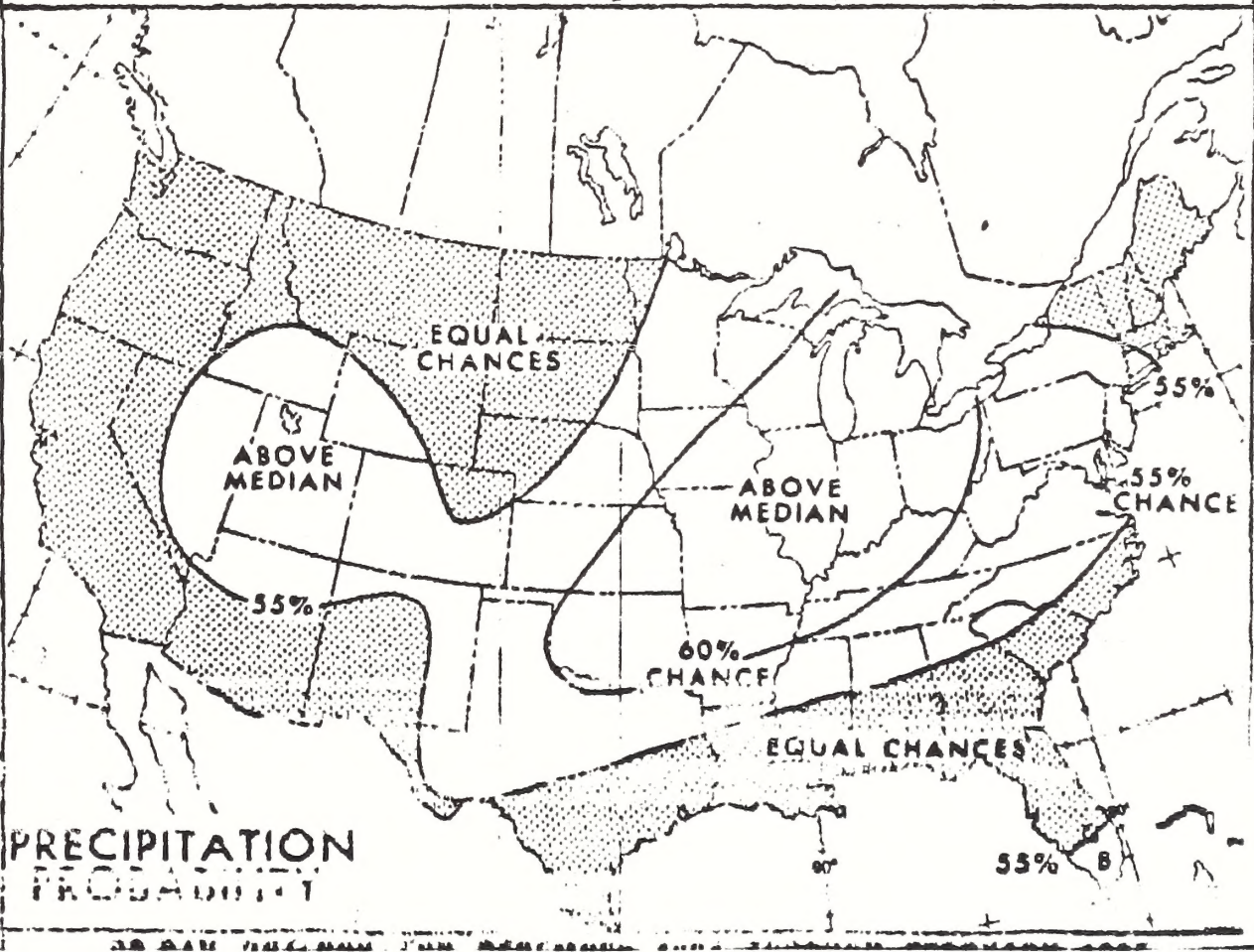
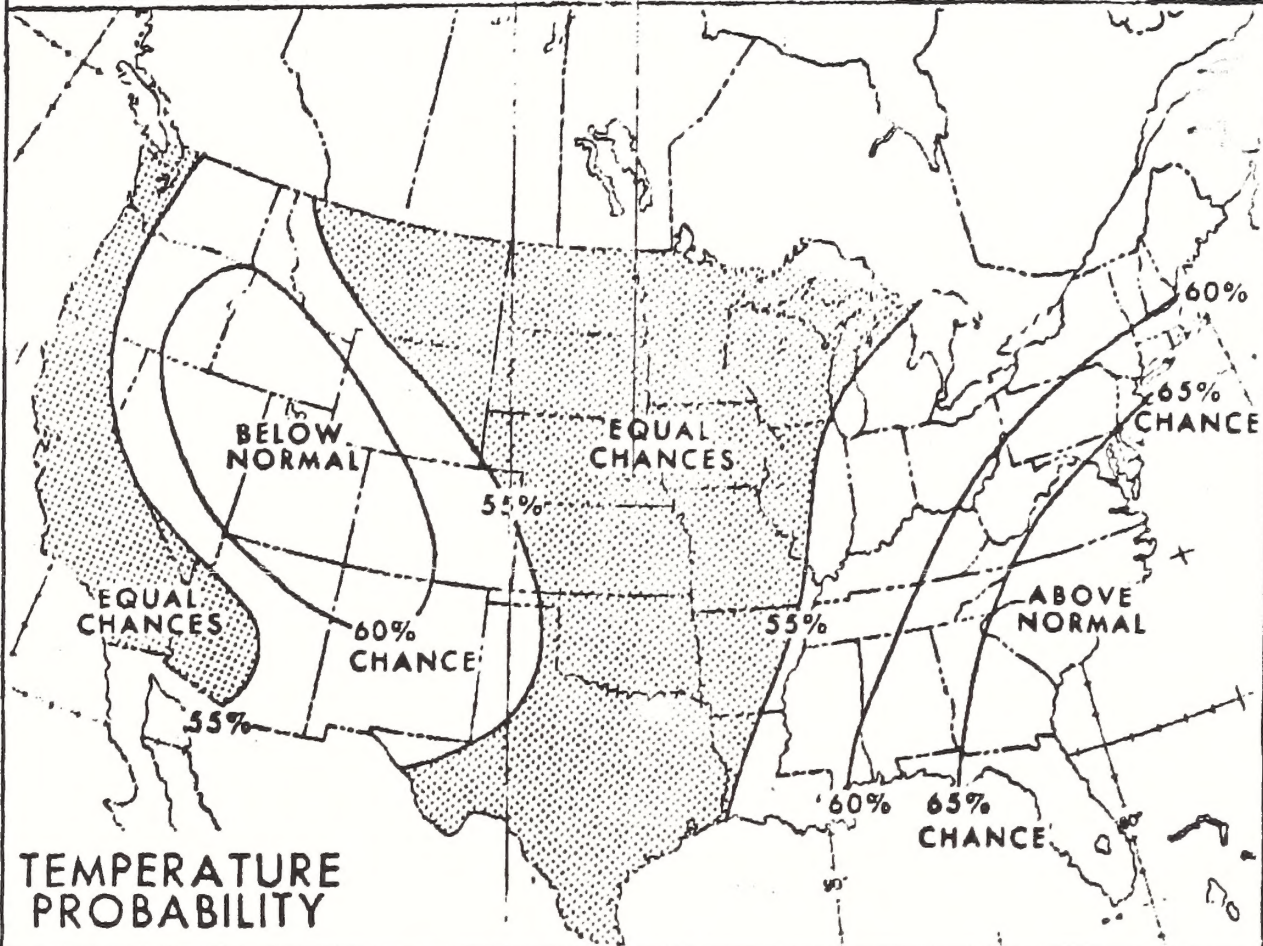
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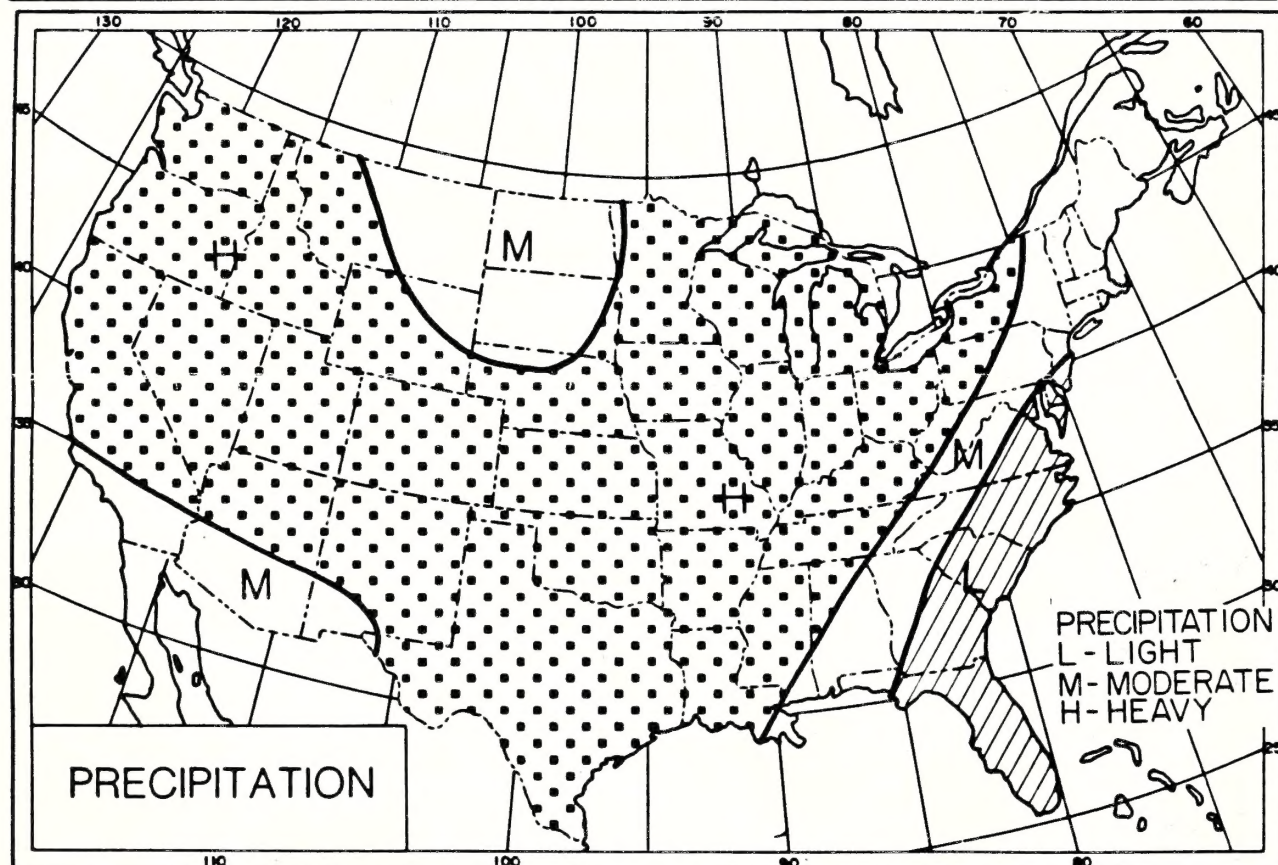
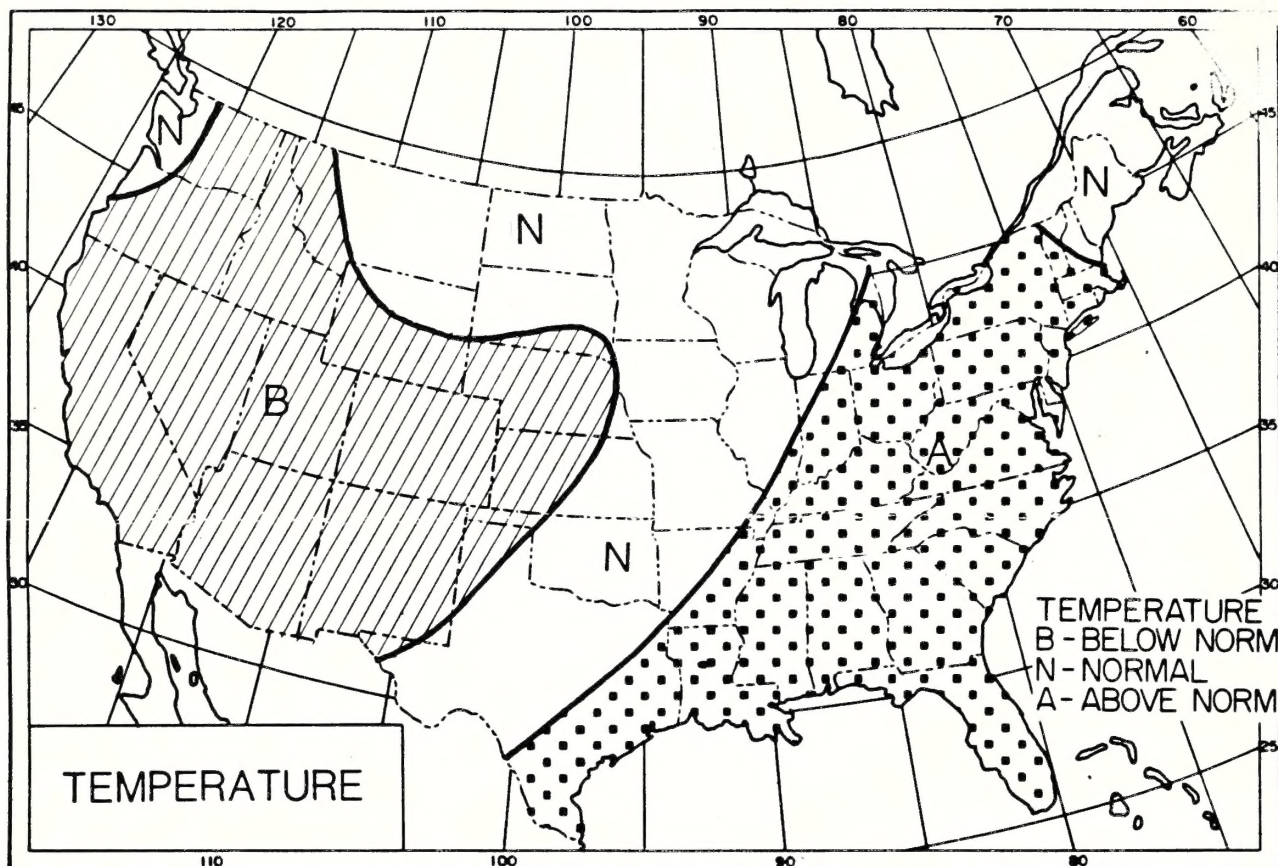
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90-DAY OUTLOOK FOR DECEMBER 1984 THROUGH FEBRUARY 1985



SCRIPPS INSTITUTION OF OCEANOGRAPHY

PREDICTED FOR WINTER 1984 - 85 (DEC. '84, JAN., FEB. '85)



Completed Nov. 29 from data ending Nov. 26, 1984 Namias/Cayan

EXPERIMENTAL FORECAST. This forecast is made as a test of experimental procedures based on limited physical understanding and thus may have only marginal usefulness.